

PD Procedures: Exit Site Care

Infected Exit Site–Sterile Procedure

1.0 Practice Standard

Indwelling catheters are at risk for the development of infections.

The Registered Nurse and the Licensed Practical Nurse who is trained and has demonstrated competency in Peritoneal Dialysis Procedures will use the outlined procedure to promote wound healing and minimize the risk of infection of the peritoneal catheter exit site when performing exit site care in the outpatient PD clinic or hospital environment.

- Patients with an infected exit site will use the procedure: *Healed Exit Site Care: Non-Showering Procedure* when caring for their exit site at home.
- Frequency of dressing changes to be increased at the discretion of the PD clinical team. Increasing dressing change to daily or twice daily should be considered.

2.0 Definitions and Abbreviations

Exit site infection: presence of purulent drainage, with or without erythema of the skin at the catheter-epidermal interface.

Tunnel infection: infection of the PD catheter tunnel associated with redness, swelling and tenderness over the tunnel. May be accompanied by purulent or bloody drainage which can be expressed.

3.0 Equipment/Supplies

- Chlorhexidine liquid soap or non antibacterial liquid pump soap
- Alcohol hand sanitizer
- Dressing tray
- Mask (for patient and caregiver)
- Sterile gauze
- Sterile gloves
- Sterile saline
- Non sterile gloves
- Dressing
- Tape
- Immobilizing device
- Antibiotic cream/ointment if ordered
- Swab for C&S if necessary

4.0 Procedure and Rationale

	PROCEDURE	RATIONALE
1	Mask patient and caregiver.	Aids in preventing the spread of air borne organisms.
2	Perform hand hygiene using chlorhexidine pump soap or non antibacterial liquid pump soap as per protocol.	Thorough handwashing reduces the risk of transmission of organisms from touch contamination.
3	Using non sterile gloves and aseptic technique, remove dressing.	
4	<p>Assess exit site (external exit and visible sinus), tunnel and catheter for:</p> <ul style="list-style-type: none"> • Drainage: type and amount • Erythema • Swelling • Pain/tenderness • Catheter integrity <p><u>Note:</u> See procedure: <i>Exit Site Care: Assessing and Classifying the Exit Site</i></p>	Assessment of exit sites based on appearance and specific characteristics aids in the early diagnosis, prevention and effective treatment of exit site infections.
5	Remove gloves and perform hand hygiene with alcohol hand sanitizer.	
6	Prepare dressing tray with sterile saline.	Non cytotoxic solutions such as saline should be used for infected exit site care.
7	Apply sterile gloves.	
8	Holding on to tubing with sterile gauze, cleanse area around the exit site with saline soaked gauze in a circular motion moving outward from the exit site to a radius of 10 cm. Repeat as required.	Saline is a non cytotoxic solution that aids in promoting wound healing. Avoid solutions such as betadine, chlorhexidine, peroxide or alcohol which are cytotoxic and delay healing.
9	Obtain swab for C&S if necessary.	Identifies organism and aids in appropriate antibiotic prescription.
10	Dry exit site thoroughly with gauze using a circular motion from the exit site outwards.	A moist environment creates a medium for growth of micro organisms.
11	Apply anti-bacterial cream/ointment as ordered sparingly using sterile gauze.	Mupirocin has shown to reduce staphylococcus aureus exit site infection. Gentamicin has shown to reduce staphylococcus aureus and pseudomonas exit site infections.
12	Allow the catheter to assume a natural lie on the abdomen ensuring that there are no kinks in the tubing and that the connector/adapter is not lying on the exit site.	Minimizes the occurrence of catheter occlusion and trauma/irritation to the exit site.

	PROCEDURE	RATIONALE
13	Cover the exit site with dressing.	Sterile gauze or transparent semi permeable dressings will be used to cover the exit site to keep clean, help secure the catheter and prevent irritation by clothing. The type of dressing may be individualized due to skin sensitivity, patient activity, personal hygiene, catheter stabilization.
14	Firmly secure the PD catheter and transfer set to the skin with tape or immobilizing device.	Immobilization of the catheter at all times is critical to promote healing and prevent further trauma caused by mechanical action during handling and normal body movements.

5.0 Patient Teaching Considerations

	PATIENT TEACHING	RATIONALE
1	Patients and caregivers will be instructed in the proper care of the exit site and catheter to minimize the risk of exit site/tunnel infections.	
2	Patients and caregivers will be instructed in the signs and symptoms of exit site/tunnel infections.	Early recognition and reporting of signs and symptoms results in early treatment and minimizes potential complications.
3	Patients and caregivers will be instructed in the importance of early reporting of changes in the appearance of their exit site to the PD program.	
4	Patients will be instructed to avoid tub baths, hot tubs, swimming and or any activity where the exit site is submerged.	Submerging of the exit site in water is not permitted on peritoneal dialysis to prevent infection.
5	Showering should be avoided when the exit site has been assessed as infected. Sponge baths are recommended during this time period. If showering has been approved by the PD clinic, exit site care should be performed immediately following using sea clens.	Showering should be avoided until the exit site is re-assessed as healed by the PD program.
6	Attempts to remove difficult to detach crusts and scabs at the exit site should be avoided.	Crusts and scabs act as a natural barrier and should not be removed. Aggressive exit site cleansing should be avoided to minimize trauma to the exit site. Softening of the crust or scab with saline may result in easy detachment.

6.0 Documentation Considerations

Documentation on patient record to include:

- Assessment of the exit site with each dressing change. Document any significant findings.
- Refer to protocol EXIT SITE CLASSIFICATION for further reference.

Report and document any complications including:

- excessive serous, purulent or sanguineous drainage
- evidence of leak
- trauma
- signs of infection
- pain/tenderness

7.0 Special Considerations: Interventional Guidelines

(does not replace individualized care and clinical expertise)

- See procedure: *Exit Site Classification And Assessment* to assist in the assessment of the exit site.
- Notify nephrologist and/or PD nurse of infected exit site or further complications from an existing exit site infection.
- Frequency of infected exit site dressings should be increased to daily.
- Daily dressing changes to be continued until assessed to be infection free by the PD program.
- Showering should be discontinued until exit site is assessed as infection free by the PD program.
- Do not remove scabs or crusts at the exit site.
- Culturing of drainage should not occur immediately following removal of the dressing. Swab cultures at this time may reflect dressing contaminants and loose free floating bacteria rather than what is actually in the wound bed. The procedure for swab collecting is extremely important for accurate diagnosis. Literature suggest that the exit site be:
 - Cleaned with sterile saline first. (non bacteriostatic and preservative free).
 - Moisten the sterile culture swab with sterile saline.
 - Rotate the swab completely over a 1-2 cm in the wound bed. (includes external exit and sinus tract).
 - Press down slightly to illicit fresh wound fluid.
 - Place in appropriate culture media and transport to the lab.
- Pericatheter erythema without purulent drainage is sometimes an early indication of infection but can also be a simple skin reaction, particularly in a recently placed catheter or after trauma to the catheter/exit site.
- A tunnel infection usually occurs in the presence of an exit site infection but rarely occurs alone.
- Consideration of skin allergies/sensitivities to solutions such as chlorhexidine must be considered when performing exit site assessments and incorporating solutions into exit site practices.

8.0 References

Cowan LJ. Wound Series Part 2: Approaches to treating chronic wounds. <https://ceufast.com/course/wound-series-part-2-approaches-to-treating-chronic-wounds>

Hain D., Chan J., Best available Evidence for Peritoneal Dialysis Catheter Exit Site Care. *Nephrology Nursing Journal*. Jan/Feb 2013. 40(1): 63-69.

Lancaster, Larry E. *Core Curriculum of Nephrology Nursing*, 5th edition, ANNA, 2008: 348-351

Mujais S, Crabtree JH, Firanek CA et al. *Access Care and Complications Management*. Renal Division, Baxter Health Corporation, 2006

Piraino B, Bailie G, Bernardini J, et al. *Peritoneal Dialysis Related Infections Recommendations: 2005 update*. *Peritoneal Dialysis International* 2005; Vol 25, pp 107 -131.

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11.0 Created

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